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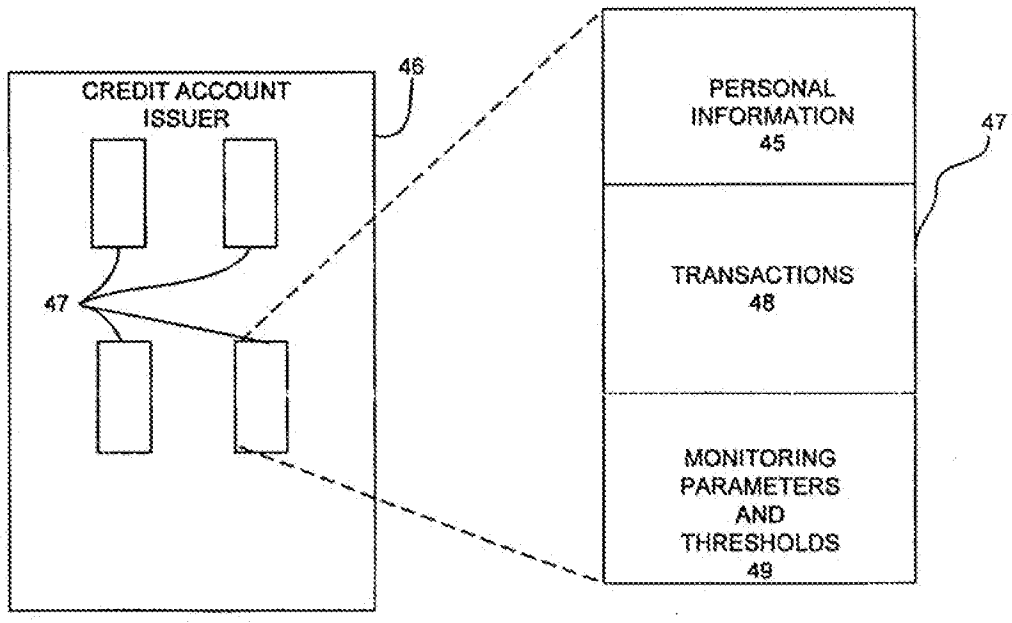
(54) Title: SYSTEM AND METHOD FOR MONITORING A CREDIT ACCOUNT



(57) Abstract

A system (30) and method (50) allow customers the ability to monitor their own credit accounts (47) based on customer adjustable and/or selectable parameters in order to detect misuse or fraud.

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SYSTEM AND METHOD FOR MONITORING A CREDIT ACCOUNT

BACKGROUND OF THE INVENTION

The present invention relates to purchases of goods or services. More particularly, the present invention relates to a system and method for a user to monitor his credit account to detect misuse or fraud.

Buying goods or services on credit is firmly established in today's economy. Credit can be established directly from a retail store or business, such as a department store, a phone company, or the like. In addition, credit can be offered by a third party, such as MasterCard or VISA, thereby allowing purchases to be made by a customer from any person or entity that has established a transactional relationship with the third party. As is well known, the credit issuer establishes a credit account for each purchaser by providing the account number and authorization to charge the account, transactions are completed when the charge is posted to the purchaser's account. Commonly, periodic statements listing the activity on the account and requesting payment are provided to the customer.

Many credit issuers may establish a credit limit for each customer. The credit limit is intended to control the amount of credit that is extended to the customer and, in part, to prevent the accumulation of fraudulent transactions not made by the customer. However, some credit issuers, such as phone companies or other types of credit issuers, do not establish a credit limit, or one that is explicitly communicated to the customer when credit is established. Both types of accounts are particularly susceptible to fraud because

charges are incurred on the customer's account without the customer's knowledge until he receives the next billing statement. A credit limit will at least suspend further transactions once the limit has been reached. Nevertheless, significant fraud usually has already occurred.

Some credit issuers will monitor or process transactions for suspect fraudulent transactions. Whether an algorithm or a manual process is employed, these methods are generally labor intensive and involve calling the customer when suspect transactions are believed to have occurred. However, at best, these methods of monitoring only catch a limited amount of fraudulent transactions, where many go unnoticed until the customer reviews his statement.

SUMMARY OF THE INVENTION

An aspect of the present invention includes a system or a method of providing customers the ability to monitor their own credit accounts based on adjustable and/or selectable parameters in order to detect misuse or fraud. In one embodiment, a computer-implemented method includes obtaining one or more thresholds from a customer for one or more parameters associated with the customer's account; establishing a means by which the customer can be contacted or alerted when any one of the corresponding thresholds of the parameters has been reached or exceeded; monitoring account activity; and alerting the customer when any one of the monitoring parameters has reached or exceeded the corresponding thresholds.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a block diagram of an exemplary computer environment for practicing and implementing

the present invention.

FIG. 2 is a pictorial representation of a customer account.

FIG. 3 is an exemplary method of operation of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Generally, an aspect of the present invention includes a method of providing customers the ability to monitor their own credit accounts based on adjustable and/or selectable parameters in order to detect misuse or fraud. In one embodiment, a computer-implemented method includes obtaining one or more thresholds from a customer for one or more parameters associated with the customer's account; establishing a means by which the customer can be contacted or alerted when any one of the corresponding thresholds of the parameters has been reached or exceeded; monitoring account activity; and alerting the customer when any one of the monitored parameters has reached or exceeded the corresponding thresholds.

FIG. 1 and the related discussion provide a brief, general description of a suitable computing environment in which the invention may be implemented. Although not required, the present invention will be described, at least in part, in the general context of computer-executable instructions, such as program modules, being executed by a computer 30. Generally, program modules include routine programs, objects, components, data structures, etc., which perform particular tasks or implement particular abstract data types. Tasks performed by the program modules are described below and with the aid of block diagrams and flowcharts. Those skilled in the art can implement the

description, block diagrams and flowcharts to computer-executable instructions. In addition, those skilled in the art will appreciate that the invention may be practiced with other computer system configurations, including multi-processor systems, networked personal computers, mini-computers, main frame computers, and the like. The invention may also be practiced in distributed computing environments where tasks are performed by remote processing devices that are linked through a communications network. In a distributed computer environment, program modules and/or data may be located in both local and remote memory storage devices.

The computer 30 illustrated in FIG. 1 comprises a conventional computer having a central processing unit (CPU) 32, memory 34 and a system bus 36, which couples various system components, including the memory 34 to the CPU 32. The system bus 36 may be any of several types of bus structures, including a memory bus or a memory controller, a peripheral bus, a network bus and a local bus using any of a variety of bus architectures. The memory 34 includes read only memory (ROM) and random access memory (RAM). A basic input/output (BIOS) containing the basic routine that helps to transfer information between elements within the computer 30, such as during start-up, is stored in ROM. Storage devices 38, such as a hard disk, a floppy disk drive, an optical disk drive, etc., are coupled to the system bus 36 and are used for storage of program modules and data. It should be appreciated by those skilled in the art that other types of computer readable media that are accessible by a computer, such as magnetic cassettes, flash memory cards, CD-ROM,

digital video disks, random access memories, read only memories, and the like, may also be used as storage devices. Commonly, programs are loaded into memory 34 from at least one of the storage devices 38 with or without accompanying data.

An input device 40 such as a keyboard, pointing device (mouse), or the like, allows an operator to provide commands to the computer 30. A monitor 42 or other type of output device is further connected to the system bus 36 via a suitable interface and provides feedback to the operator. Computer 30 can communicate to other computers, or a network of computers (generally designated at 43), such as the Internet through a wired or wireless communications link, and an interface 44, such as a modem, network card, or the like. In one embodiment, computer 30 can organize, present and solicit information to and from a customer through a "Website" commonly used on the Internet. In such a situation, the computer 30 is identified as a server, while remote computers are identified as clients. Remote customers can access the Website using a conventional desktop computer or other Internet device and a browser, such as MICROSOFT INTERNET EXPLORER or NETSCAPE NAVIGATOR. Computer 30 can also interface with phone systems to make calls and execute programs to generate synthesized human speech, send wired or wireless alphanumeric text or facsimile transmittals to notify a customer for the reasons described below.

FIG. 2 pictorially illustrates a credit issuer 46 having a plurality of customer accounts 47. Each customer account 47 can include personal information 45, such as name, mailing address, e-mail

address, pager/telephone numbers, or other similar identifying, authenticating or contact information, for the customer. Transactions 48 are posted or otherwise recorded against the account 47, for example, from vendors selling goods or services to the customer. The credit account issuer 46 can be, for example, a department store that sells goods or services to the customer. Other credit account issuers 46 include phone companies that provide phone service when the customer uses a calling card to gain access to long distance service and wherein individual transactions comprise long distance calls. Other phone companies extend credit in a cellular system where the cellular phone user makes local or long distance calls. Other credit account issuers 46 include third party financial institutions, such as MasterCard or VISA, that extend credit to allow a customer to make purchases at any business that has established a prior relationship with the third party institution. Furthermore, as used herein, a credit account issuer 46 also includes a bank or other financial institution that allows access to customer savings, checking accounts or credit lines, using debit cards, online banking or other transactional devices that include the customer's account number. In addition, as used herein the credit account issuer 46 can include companies that provide online (e.g. Internet) or automated bill payment services and also companies that provide online and offline electronic currency.

Associated with each customer's account 47 is user selectable and/or adjustable parameters 49 that can be used to monitor account activity. Examples of monitored activities include, but are not limited to, a

threshold amount (e.g. at or below the credit limit) where the customer will be notified; individual transactions exceeding a selected monetary amount; transactions occurring with respect to a geographical area, such as outside a given geographical area, for example, in other states or foreign countries; transactions with vendors that are not included with a predetermined list of vendors or vendor types (e.g., convenience stores, utility companies, sporting goods stores, etc.); the number of unnotified transactions allowed in a given time period such as per day, per week or per month; and the sum of the monetary amounts of unnotified transactions allowed in a given time period such as per day, per week or per month. Corresponding thresholds are established for each of the selected parameters. When a transaction or a series of transactions result in one or more of the thresholds to be met or exceeded (herein a "credit variance" or an "account alert"), the customer is contacted or alerted.

It should be understood that the customer account 47 illustrated in FIG. 2 is only a pictorial representation of information comprising the customer account 47. In many instances, the personal information 45, transactions 48 and monitoring parameters 49 are not stored in any of the storage devices 38, described above, as a single file. Rather, personal information 45, transactions 48 and monitoring parameters 49 may be stored separately as separate files on the same or different storage devices 38, wherein linked relationships are maintained in order to access specific data as desired, for example, based on the customer's account number. In addition, individual objects making up personal information 45, transactions

48 and monitor and parameters 49 can also be stored separately and accessible through linked relationships.

An exemplary method 50 of operation is illustrated in FIG. 3. At step 50, the customer provides the personal information 45 discussed above. At step 52, the customer selects the parameters and corresponding thresholds 20 that will be used to monitor his account 47. The customer can also select, at that time, the communication means that will be used to alert the customer if and when any of the thresholds have been met or exceeded. Depending on the communication means chosen, the personal information 45 will include the customer's address, the customer's phone number, the customer's electronic mail (e-mail) address (where text, audio and/or video messages are received), pager/telephone number, etc. At step 54, the customer's account is monitored for credit variances. When a credit variance occurs, the customer is alerted using one or more of the selected communication means at step 56.

It should be noted that different credit variances can invoke different communication means, if desired. Furthermore, different thresholds can be set for each parameter, wherein when a given threshold is met or exceeded, a different communication means is used to alert the customer. It should also be noted that any other account activity that occurs, for example, changing the address to which statements are sent, e-mail addresses, phone numbers, etc., can also trigger a notice to be sent to the customer over the selected communication means. As used herein, changes to the personal information, as described above, is also a credit variance or an account alert. In this

manner, attempts by a third party to circumvent the monitoring process by changing the personal information is also detected and reported. In one embodiment, the credit account issuer 46 can allow the change of personal information 45 to occur; however, notification is at least sent to the customer using the prior address, e-mail or phone number in addition to making the corresponding requested change.

In a preferred embodiment, notification is provided to the customer using the chosen communication means automatically without intervention from personnel of the credit account issuer 46. For instance, depending on the customer's preference, the communication means can include an e-mail (text, audio and/or video) that is automatically generated and sent via a wide area wired or wireless network, such as the Internet, to the customer when a credit variance has occurred. Other communication means include a computer-synthesized voice message that is composed and delivered via phone call by the credit account issuer 46. Likewise, a letter or facsimile transmittal can be prepared and sent or transmitted. However, in all cases, the credit variance is triggered according to the specific parameters and/or thresholds chosen by the customer and generally not by the credit account issuer 46, although current practices of the credit account issuer 46 to detect fraud can also be incorporated into the present invention.

In the case where the alert is provided via an e-mail address, the customer can be solicited for additional information to be used in adjusting monitor parameters and/or thresholds 49. For instance, when a transaction occurs that exceeds the customer's selected

threshold monetary amount, the customer is alerted via e-mail that the transaction occurred and is provided with identifying information such as the amount and the vendor for the goods or services. At that time, the customer can elect to reply to the e-mail and inform the credit account issuer 46 (with suitable password or other identifying techniques, e.g., fingerprint, retinal scan, etc.) that further transactions to this vendor should go unreported or only when a vendor specific threshold has been exceeded or met. In this manner, repeated transactions to a particular vendor that would otherwise cause an alert to be sent can be excluded in order to reduce the number of alerts. Of course, vendor specific thresholds can also be identified and set when the account 47 is first established with the credit account issuer 46.

It should also be noted that alerts can be provided to other people besides the customer authorized to make transactions on the account that may have an interest in account activity. For example, a co-signer or other person legally responsible for debts incurred may want to be alerted in addition to the customer when any of the thresholds for the parameters have been met or exceeded. Such a person can have thresholds that are different than those selected by the customer as well as other credit variances, which may or may not require customer notification. For instance, a co-signer on an account may want to be alerted when other parameters related to the account have been changed, exceeded or met. Such parameters include, but are not limited to, failure to make a minimum payment on an outstanding balance of the account, a change in the credit limit, when an average

balance on the account for a selected period of time, such as a period of months, has exceeded a selected threshold, or when total interest accumulated so far has exceeded a selected threshold.

Depending on the communication means chosen for providing alerts, the customer can direct the credit account issuer 46 to close the account, suspend authorization for further transactions, or suspend payment on specific transactions, for example, payments made by online bill payment services to specific vendors. For example, when an e-mail alert is provided, the customer can reply also via the e-mail with instructions to stop further transactions. Alternatively, the alert can include a Website location where the customer can obtain further information regarding the credit variance and/or provide instructions. In the case where the alert is provided via a voice synthesized message, the customer can immediately instruct the credit account issuer 46 to stop further transactions by pressing a key, entering a selected key sequence on the phone keypad, or providing a voice command. Alternatively, the customer can reach personnel of the credit account issuer 46 immediately by using the keypad to obtain more information or take action on the credit variance. In a manner similar to that described above where the customer can provide vendor specific thresholds, the customer can, using the keypad, set the vendor specific thresholds. This information can be presented and gathered using known menu-operated, computer controlled phone interactive systems. The customer could also call directly, if desired.

Initial parameters and corresponding

thresholds can be obtained from the customer using a variety of methods and means. For instance, if the account is established via a phone solicitation by the credit account issuer 46, parameters and thresholds can initially be obtained at that time. Likewise, if a written application is used by the credit account issuer 46, parameters and thresholds can also be obtained at the time of filling out and subsequently processing the written application.

One particularly attractive method for obtaining parameters and thresholds is to use a "Website" on the Internet. Generally, the customer accesses the Website using a conventional browser on his computer. The initial application, as well as initial and updated parameters and thresholds can be provided to the credit issuer 47 using the Website. This technique minimizes the amount of labor needed by the credit account issuer 46 to obtain and maintain user preferences and thresholds. Suitable authentication using passwords or other identifying techniques is performed upon accessing the parameters for any customer's account to insure validity of the customer.

Although the present invention has been described with reference to preferred embodiments, workers skilled in the art will recognize that changes may be made in form and detail without departing from the spirit and scope of the invention.

WHAT IS CLAIMED IS:

1. A computer-implemented method of monitoring a credit account comprises:

obtaining a threshold from a customer for a parameter associated with the customer's credit account;

establishing communication means by which the customer can be alerted when the threshold has been reached or exceeded;

monitoring account transactions; and

alerting the customer using the communication means when the monitored parameter has reached or exceeded the threshold.

2. The computer-implemented method of claim 1 wherein the communication means comprises a text message, and wherein alerting comprises transmitting the text message to the customer.

3. The computer-implemented method of claim 2 wherein alerting comprises transmitting the text message through the Internet as an electronic mail message.

4. The computer-implemented method of claim 2 wherein alerting comprises transmitting the text message to a pager.

5. The computer-implemented method of claim 2 and further comprising:

receiving a reply to the electronic mail notification to modify a threshold or parameter.

6. The computer-implemented method of claim 1 wherein the communication means comprises synthesized speech, and wherein alerting comprises transmitting the synthesized speech.

7. The computer-implemented method of claim 6 wherein alerting comprises transmitting the synthesized speech through the Internet.

8. The computer-implemented method of claim 1 wherein obtaining includes accessing a site on the Internet.

9. The computer-implemented method of claim 1 wherein the monitored parameter comprises a credit limit.

10. The computer-implemented method of claim 1 wherein the monitored parameter comprises a transaction exceeding a selected amount.

11. The computer-implemented method of claim 1 wherein the monitored parameter comprises a transaction occurring with respect to a selected geographical location.

12. The computer-implemented method of claim 1 wherein the monitored parameter comprises a transaction with respect to a selected vendor.

13. The computer-implemented method of claim 1 wherein the monitored parameter comprises the number of unnotified transactions in a time period.

14. The computer-implemented method of claim 1 wherein

the monitored parameter comprises the sum of the monetary amounts of unnotified transactions in a time period.

15. The computer-implemented method of claim 1 wherein the step of obtaining includes obtaining a threshold for second parameter associated the customer's credit account; wherein the step of establishing includes establishing communication means by which a second person can be alerted when the threshold of the second parameter has been reached or exceeded; and wherein the step of alerting includes alerting the customer using the communication means when the second parameter has reached or exceeded the corresponding threshold.

16. A computer system for monitoring a customer credit account, the computer system comprising:

means for obtaining a threshold from a customer for a parameter associated with the customer's credit account;

processor means for comparing a transaction received for the customer's credit account with the stored threshold; and

means for alerting the customer when any one of the corresponding thresholds of the parameters has been reached or exceeded.

17. The computer system of claim 16 wherein the monitored parameter comprises a credit limit.

18. The computer system of claim 16 wherein the monitored parameter comprises a transaction

exceeding a selected amount.

19. The computer system of claim 16 wherein the monitored parameter comprises a transaction occurring with respect to a selected geographical location.

20. The computer system of claim 16 wherein the monitored parameter comprises a transaction with respect to a selected vendor.

21. The computer system of claim 16 wherein the monitored parameter comprises the number of unnotified transactions in a time period.

22. The computer system of claim 16 wherein the monitored parameter comprises the sum of the monetary amounts of unnotified transactions in a time period.

23. The computer system of claim 16 wherein the means for obtaining comprises a remote computer communicating through the Internet.

24. The computer system of claim 16 wherein the means for alerting comprises transmitting a message through the Internet.

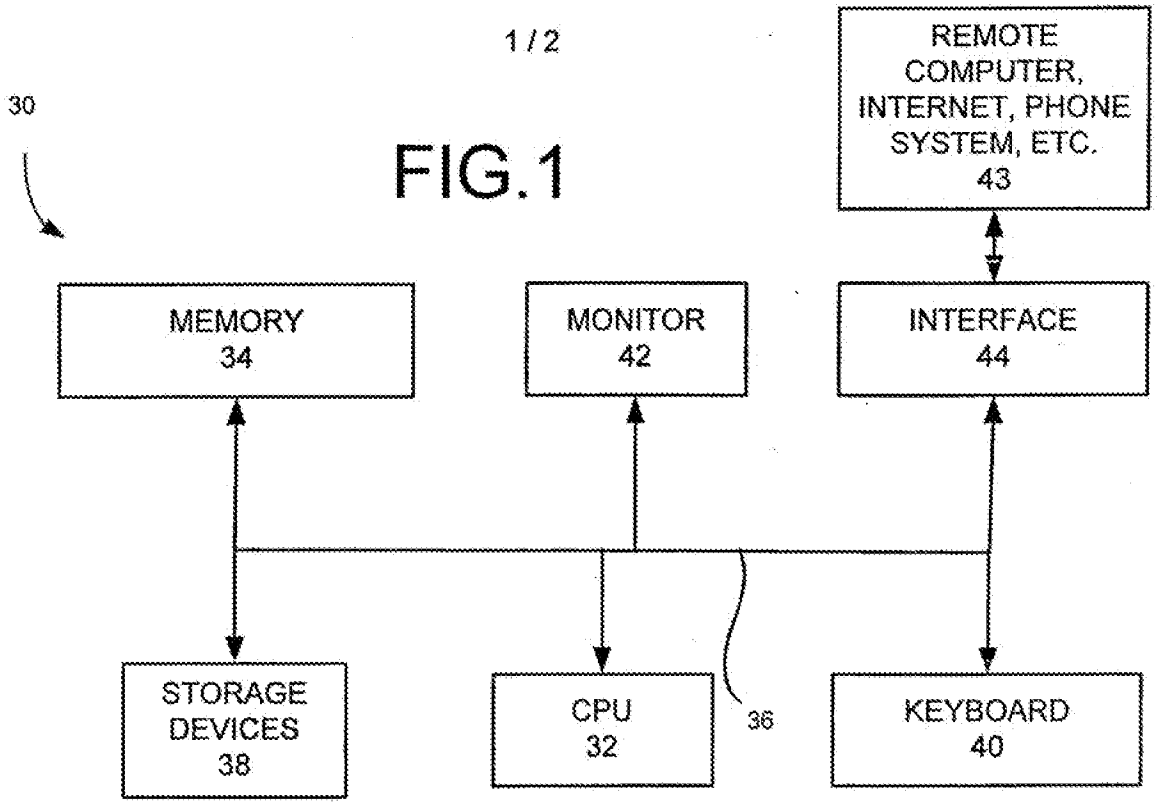
30
REMOTE COMPUTER, INTERNET, PHONE SYSTEM, ETC. 43
MEMORY 34
MONITOR 42
INTERFACE 44
STORAGE DEVICES 38
CPU 32
36
KEYBOARD 40

FIG.1

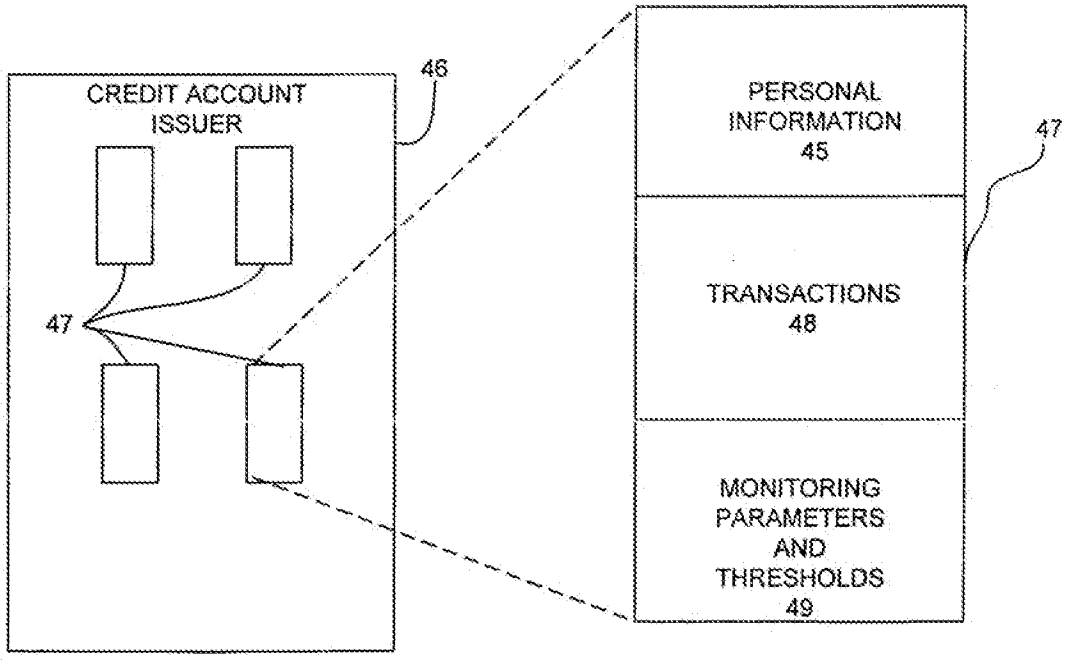
CREDIT ACCOUNT ISSUER
46
47
PERSONAL INFORMATION 45
47
TRANSACTIONS 48
MONITORING PARAMETERS AND THRESHOLDS 49

FIG.2

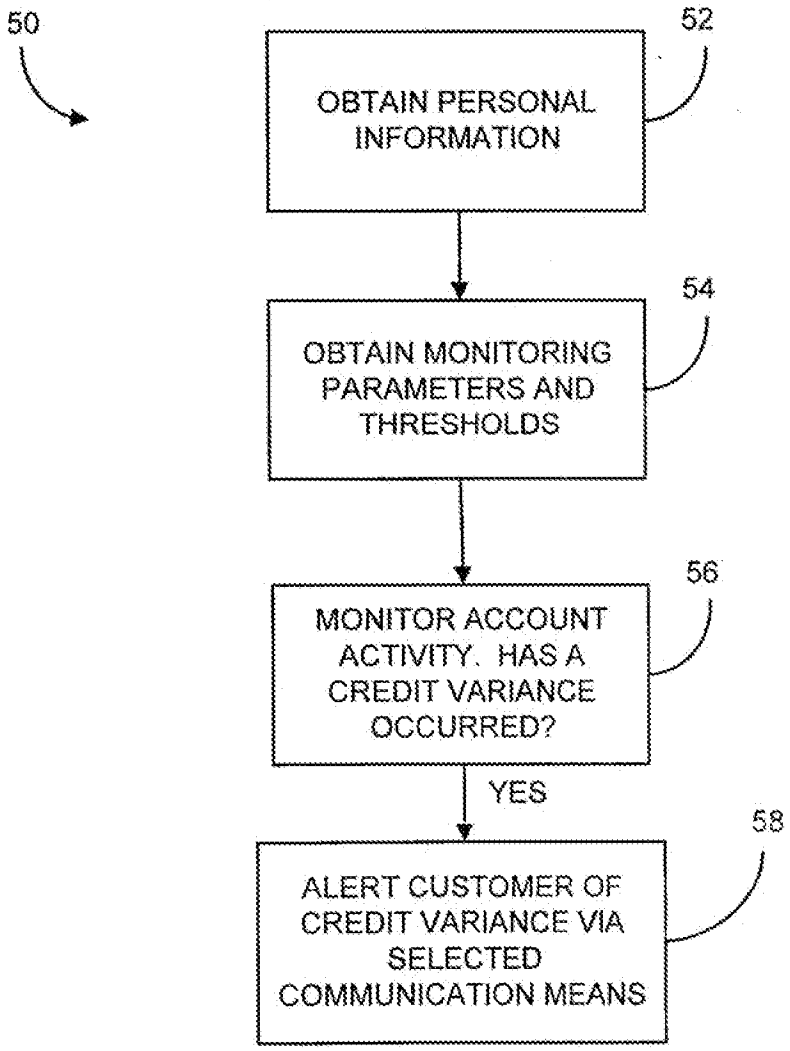
50
52
OBTAIN PERSONAL INFORMATION
54
OBTAIN MONITORING PARAMETERS AND THRESHOLDS
56
MONITOR ACCOUNT ACTIVITY. HAS A CREDIT VARIANCE OCCURRED?
YES
58
ALERT CUSTOMER OF CREDIT VARIANCE VIA SELECTED COMMUNICATION MEANS

FIG. 3

INTERNATIONAL SEARCH REPORT

Inte nal Application No
PCT/US 00/02707

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 G07F19/00 G06F17/60

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 G07F H04L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
WPI Data, EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 745 961 A (AT &T) 4 December 1996 (1996-12-04)	1,2,4,6, 9,10, 12-14, 16-18, 20-22
A	abstract; claims; figures 1-8 column 3, line 1 -column 4, line 15 column 5, line 15 -column 11, line 28	5,15
A	US 5 530 438 A (R.S. BICKHAM) 25 June 1996 (1996-06-25) the whole document	1,2,4,6, 16
A	US 4 554 418 A (F.C. TOY) 19 November 1985 (1985-11-19)	

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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Date of the actual completion of the international search	Date of mailing of the international search report
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1

INTERNATIONAL SEARCH REPORT

information on patent family members

Inter nal Application No
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